BY DAVID GERSTEL

Taking the Slop Out of Estimating

This article is the second in a four-part series. The first emphasized that estimating and bidding require different mindsets and should be clearly separated from one another. The third and fourth articles will get into the specifics of accurately estimating labor costs and of obtaining reliable subcontractor bids.

Like archery or any other target sport, estimating can be practiced with a high degree of proficiency. Even so, when you take a shot at the cost of an item or assembly and miss the bullseye, you want to avoid getting discouraged. You want to avoid letting perfection be the enemy of the good.

Unfortunately, that's often not what happens in our world of light-frame construction. Because perfection is not achievable, guys settle for a lot less than good, and excuse inept work with all manner of clichés. Just the other day I bumped into a friend I will call "Frank." He is an outstanding builder. When the subject of estimating and bidding comes up, however, Frank shape-shifts. He transforms from an exacting craftsman who does not tolerate excuses for sloppy construction into the opposite. "It's just a crap shoot," he says of estimating.

Yes, estimating is approximating. Plumb, level, and square are approximations, too. But there are frames that are very close to dead-on plumb, level, and square—that are "true." Estimates and bids can be very close approximations rather than sloppy ones, as well. They can be true, too.

But the truth is that Frank is just one of many talented builders I have met who produce sloppy estimates because, even as they steadily strive to refine their on-site production skills, they put little effort into creating good estimating and bidding systems. And because they treat estimating like a "crap shoot," they get exactly that: erratic results that have only an accidental relationship to the actual costs of a project.

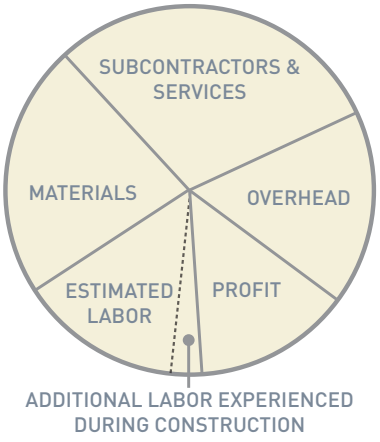
The rationalizations for inept and inaccurate estimating and bidding are offered up not only by builders but even by construction industry consultants and educators. Among their favorites: "To estimate" means "to approximate"; therefore, an estimate is just an approximation and by definition can't be, should not be expected to be, anything more than a rough stab at a number. Well, yes, estimating is approximating. Plumb, level, and square are approximations, too. But there are frames that are very close to dead-on plumb, level, and square—that are "true." Estimates and bids can be very close approximations rather than sloppy ones, as well. They can be true, too.

Another excuse: "A construction project is like a lawsuit. You cannot know what it will cost till it's over." Rubbish! The cost of a lawsuit can be driven upward by the anger of litigants thirsting for vengeance or self-justification. But for a well-run construction company, the costs of a project as designed are highly predictable by owners or staff who have done the hard work of learning to estimate systematically. Even the less known costs—change order charges for hidden conditions or upgrades—can be provided for reasonably well with allowances or contingencies derived from experience.

A final rationalization holds that estimating is as much an art as it is anything else. One builder advocating for the estimating-as-art idea sought to support it by describing a series of projects with difficult job site access. His examples were helpful. They illustrate how important it is to account for access, especially difficult access, when building an estimate. But to call that process "art" does not seem to me to be helpful; for it implies that an estimator can rely on some sort of loose intuitive process when what is really called for is controlled number crunching. Adjusting for access in an estimate serves to illustrate that point nicely.

Difficult access will slow productivity. But it is equally important to note that while access might be difficult for some items in a project, that does not mean it will be difficult for all items. For example, tight interior space may slow productivity for the tear-out, some reframing, and all finish work in the replacement of a worn-out bathroom that is up a stairway and at the end of a narrow hallway. But it won't adversely affect floor reframing or repiping or rewiring if that work can be installed from an uncluttered garage under the bathroom. In other words, for some items of work in a project, difficult access will slow productivity, and the costs in an estimate for that work must be appropriately adjusted. For other items, access may be normal and productivity and costs won't need to be adjusted at all.

In short, adjustments to productivity for difficult access should be made not with some broad brushstroke applied across an entire



Which Charges to Include?

This chart, which summarizes the charges in an estimate and bid, does not include a slice for equipment. Here's why: Relatively small items of equipment, such as table saws, are most efficiently charged for as part of general company overhead. Heavy equipment (think front-end loader or excavator) is another matter; its use should be charged only to the projects for which it is used. If it is not to be used for a project, you don't want to bump up your bid by including costs for the equipment in your estimate for that project. And that is what would happen if its cost were included in your general overhead markup. Bear in mind, a bid that is low is a bad bid. But a bid that is unnecessarily high is also a bad bid. If you win it, it might be a lucky bid. But it still is bad work, for it means you do not have control of your numbers. And over the long haul, that's going to do your company more harm than good.

estimate, but selectively and precisely. If you want to describe the work via metaphor, call it a target sport, not "art"—which, like other rationalizations for loose or even sloppy estimating, can too easily become just a cover-up for the lack of well-honed estimating procedures.

Costs in an estimate can be targeted with precision if you have a quiver of well-crafted arrows—including especially labor productivity records for a broad range of items and assemblies, a subject I will explore in an upcoming article. With those in hand, you can hit even your numbers for labor by your own crew—the most difficult costs to pin down in an estimate. And with a variety of records for items of work—for example, with one record for framing a pony wall on a steep hillside (tough access) and another for framing a pony wall on a flat lot (standard access)—you can accurately factor access, as well as other conditions, into your estimates.

It is quite possible to nail down all costs included in an estimate, and even those charges to clients that are more usefully captured during the bidding process—namely overhead and profit.

Subcontractor costs can be estimated tightly by 1) requiring that subs cover all work normally produced by their trade unless that work is explicitly excluded in writing and 2) making sure any excluded work is covered elsewhere in the estimate. (As with labor productivity, we will take a look at just how those steps are accomplished in an upcoming article.)

Material costs can be accurately nailed down with thorough quantity takeoffs and written—always written—quotes from reliable suppliers and contract protections against inflation.

Overhead costs can be reliably allocated to projects one job at a time. In my view, that is best accomplished by allocating overhead for a project on the basis of the length of time that project will take and the portion of company capacity it will absorb—that is, by using the "time/capacity method" I detail in *Nail Your Numbers*. I am not a fan of the much more commonly used fixed percentage or gross profit margin (GPM) methods. The first is simplistic. The second is unnecessarily complicated and muddies the distinction between overhead and profit by marking up for them with a single calculation.

Profit for a job can likewise be projected reliably. True, figuring the amount of profit to include in a bid is a judgment call that takes into account a range of factors including market conditions. But the amount of profit that will remain in a builder's bank account when a project is completed will be as anticipated if the other costs in a job are figured accurately, and if the job has been properly qualified for a bid, is built under a thorough and fair contract, is well run—and is not hit by one of those strokes of bad luck that do plague the construction business.

Labor is the toughest of all project costs to figure reliably. But that, too, can be done. Building a file of labor productivity records is the critical thing.

The final good news about the items in the pie chart above is this: Even a fairly large miss in estimating labor costs results in only a minor miss in your overall bid. You might be low on your labor estimate by 15%. But if labor is, say, one fifth of the total price for a job, then your miss on the labor will cause your total price for the job to run off by only some three percent (.2 x 15% = 3%). Further good news: Over time the small misses in labor cost estimates, some low and some high, will tend to balance one another out.

If you are willing to do the work necessary to build a strong estimating system, errors in your estimates and bids as a whole will also tend to balance out. As the estimating manual of the Associated General Contractors points out, the law of averages is on your side. You may never quite hit the bullseye dead center with any given estimate and bid. Perfection in estimating is no more attainable than in any other target sport. You will miss a bit one way on one job, somewhat in another direction the next. But over time the misses will average out to close to zero, and your overall results will get closer to the center of the bullseye.

David Gerstel has been a builder for over four decades and is the author of Running a Successful Construction Company, *long regarded as an industry standard. David's new book,* Nail Your Numbers: A Path to Skilled Construction Estimating and Bidding *is available from Amazon or at the bookseller of your choice. You can contact David via his website, davidgerstel.com.*